



NATIONAL GEOGRAPHIC

SEPTEMBER 1994

Earth Almanac

With Llamas on Guard, Sheep May Safely Graze

Coyotes love to eat lamb. So do stray dogs. Together they cost U. S. sheep farmers more than 20 million dollars in 1990 alone. Many farmers use trained dogs as guards, but accidents reduce their average life span to just a few years. And they must be fed. As an alternative, a number of sheep producers have chosen a sheep-guarding animal that lives 15 to 25 years, eats grass, and hates coyotes—the llama.

Imported from the Andes, some 70,000 llamas are now raised in North America as pack animals, for wool, and as pets. During the 1980s ranchers began using them to guard their sheep, including these in western Montana (above right).

“Llamas have evolved a natural antagonism toward all members of the dog family, because foxes attack their young in the Andes,” says Bill Franklin, professor of animal ecology at Iowa State University, who studies guard llamas with colleague Kelly Powell. “When they see a coyote, they often give an alarm call. They chase it and kick it if they can.”

Llamas are not the sheep's only new-found friends. Wild burros also guard



WILLIAM L. FRANKLIN

sheep; about 4,300 burros, most to be used as guard animals, have been rounded up by the Bureau of Land Management and adopted by ranchers since 1988.

Parking-Meter Change Stems Nature's Violation

You won't get a ticket if you don't feed these conservation parking meters, but if you do spare some change, you'll be helping save the rain forest.

The meters have nothing to do with parking your car—they're like wishing wells. About 160 have been installed at U. S. and Canadian aquariums, stores, and zoos, including this one in the San Francisco Zoo adorned by a live green-cheeked Amazon parrot. The project is sponsored by the Center for Ecosystem Survival in cooperation with Rotary Clubs, the Nature Conservancy, and other nonprofit organizations. The proceeds fund conservation efforts in Latin America, where a quarter buys 90 square feet of rain forest. With the meters, the partners hope to raise two million dollars—about 26 square miles' worth.



P. F. BENTLEY, BLACK STAR

Locust Phobia: “Is There a Fungus Among Us?”

In drought-stricken African countries, rain is both a blessing and a curse. “When the rains come, so do desert locusts, in unimaginable numbers,” says Chris Prior of the International Institute of Biological Control in England. Breeding in moist soil, a hundred billion voracious locusts can swarm through Ethiopia or Sudan in the course of a year, laying waste to corn, rice, millet, and other crops.

Roughly 3.5 million gallons of



STEPHEN DALTON, NHPA

pesticides were used during the last locust plague, from 1986 to 1989. But Prior and researchers elsewhere have an environmentally friendly weapon—a lethal fungus. When the fungus is sprayed, its spores land on the insects, germinate, and penetrate their bodies. The fungus grows and completely fills the locust's body, killing it in five to ten days. Field tests have been promising in Benin, Niger, Mauritania, and South Africa.

—JOHN L. ELIOT